

WHAT IS CLAIMED IS:

1. A method of controlling the temperature of an exothermic reaction, the method
5 comprising:
 - a) contacting within a reactor a gaseous reactant with a catalyst to form reaction products, the reaction products existing in both a liquid and vapor phase;
 - b) removing at least a portion of the vapor phase reaction products from the reactor;
 - c) condensing at least a portion of the removed vapor phase reaction products at a
10 location outside the reactor to form a volatilizable liquid; and
 - d) injecting at least a portion of the volatilizable liquid into the liquid phase reaction products contained within the reactor;wherein the volatilizable liquid comprises at least 10 percent by weight C₁₁₊ hydrocarbons.
- 15 2. The method of claim 1, wherein the volatilizable liquid comprises at least 10 percent by weight C₁₁ to C₂₀ hydrocarbons.
3. The method of claim 1, wherein the volatilizable liquid comprises at least 10 percent
20 by weight C₁₁ to C₁₅ hydrocarbons.
4. The method of claim 3, wherein the volatilizable liquid comprises at least 20 percent by weight C₁₁ to C₁₅ hydrocarbons.
- 25 5. The method of claim 3, wherein the volatilizable liquid comprises at least 30 percent by weight C₁₁ to C₁₅ hydrocarbons.
6. The method of claim 1, wherein the volatilizable liquid comprises at least 5 percent by weight C₁₆₊ hydrocarbons.
- 30 7. The method of claim 1, wherein the exothermic reaction is a Fischer-Tropsch synthesis.

8. The method of claim 7, wherein the Fischer-Tropsch synthesis is carried out in a slurry-type reactor.
- 5 9. The method of claim 7, wherein the volatilizable liquid is a product from the Fischer-Tropsch synthesis.
10. The method of claim 9, wherein the volatilizable liquid is a condensate fraction boiling in the range C₅ to 700°F.
- 10 11. The method of claim 1, wherein the volatilizable liquid comprises hydrocarbons selected from the group consisting of paraffins and 1-olefins.
12. The method of claim 1, wherein the volatilizable liquid comprises less than about 50
- 15 percent by weight C₁ to C₁₀ hydrocarbons.